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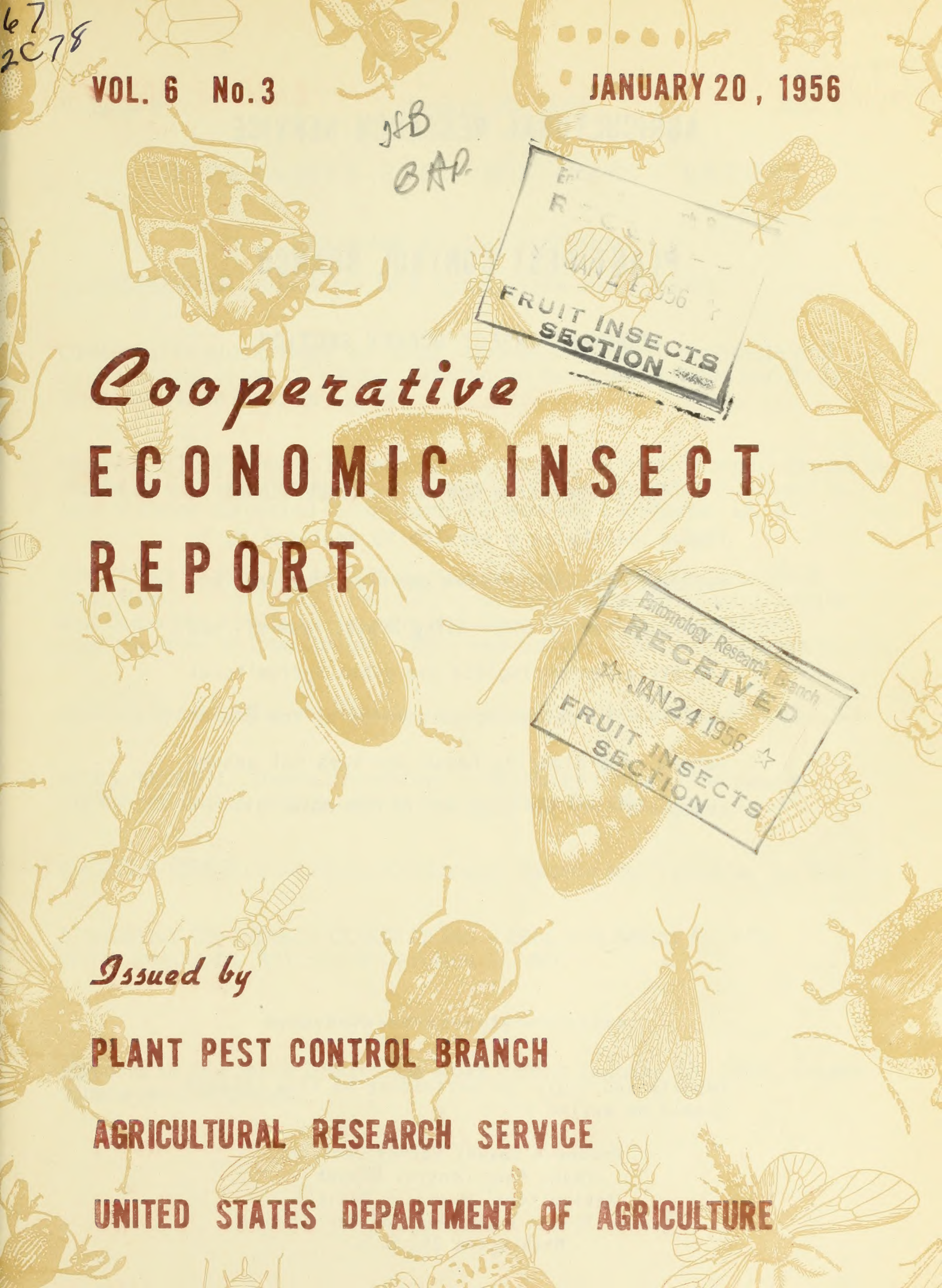

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Cooperative ECONOMIC INSECT REPORT

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PLANT PEST CONTROL BRANCH

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL BRANCH

ECONOMIC INSECT SURVEY SECTION

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Branch serves as a clearing house and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Economic Insect Survey Section
Plant Pest Control Branch
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Volume 6 January 20, 1956 No. 3

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

GRASSHOPPER outlook for 1956 (map). (see end of book).

GREENBUG widespread, but light, on small grains in panhandle and northwestern areas of Texas. Medium to heavy in De Baca and Eddy Counties, New Mexico. (p. 37).

BROWN WHEAT MITE increasing and causing damage to small grains in the panhandle and northwestern areas of Texas. Infestations found in half of fields inspected in northern and western Oklahoma. (p. 37).

SPOTTED ALFALFA APHID medium to heavy on alfalfa throughout New Mexico. In Texas - building up in Brazos and Burleson Counties and damaging alfalfa in Grayson and Leon Counties. Infestations also reported in Iron County, Utah, and Garvin County, Oklahoma. (p. 37).

Outlook for APHIDS on potatoes in northeastern Maine in 1956. (p. 38).

BOLL WEEVIL hibernation survey in McNairy County, Tennessee, shows population higher than in fall of 1954. (p. 38).

CATTLE GRUB counts from Oklahoma, Kansas and Virginia. (p. 39).

SUMMARY OF INSECT CONDITIONS - 1955 - in Maine (p. 42), North Dakota (p. 43), South Carolina (p. 46).

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Reports in this issue are for the week ending January 13, 1956, unless otherwise designated.

WEATHER BUREAU'S 30-DAY OUTLOOK
Mid-January to Mid-February 1956

The Weather Bureau's 30-day outlook for mid-January to mid-February calls for temperatures to average above seasonal normals in the western half of the country. East of the Mississippi generally below normal temperatures are indicated, except for near normal in the Great Lakes area and the Northeast. Precipitation is expected to be subnormal in the southern half of the nation. Greater than normal amounts of rain and snow are predicted for the Northeast, Northwest, and northern Rocky Mountain States, with near normal elsewhere.

This report released by the Weather Bureau on January 17, 1956

Weather forecast given here is based on the official 30-day "Resume and Outlook", published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington 25, D. C. Price: $4.80 a year, $2.40 for six months.

WEATHER FOR THE WEEK ENDING JANUARY 17, 1956

Weather varied widely over the country during the past week, but in general each section was dominated by conditions repetitive of preceding weeks. Cold air draining into the South from northern regions brought additional frosts and cold weather to Florida and other Southern States. The Atlantic low pressure system of last week, moving slowly northward, continued to produce snow, sleet, and rain in the Northeast. In the Northwest, precipitation persisted as Pacific low centers pushed into that part of the country. The central Great Plains area experienced above normal temperatures for the fourth consecutive week. The southern and central sections of the United States remained very dry. Departures of average temperatures were above normal over a large portion of the country, but were below normal in the southeastern quarter of the Nation from the Ohio Valley to south-central Texas, and also in a small area along the Canadian Border from Cutbank, Mont., eastward to Williston, N. Dak. Florida experienced a very cold week with average temperatures below normal by 10° in the north and 15° on the Peninsula, while minimum temperatures ranged between the upper 20's and lower 40's throughout the period. Frost occurred in some parts of Florida on all days, the heaviest on the morning of January 15 with severe damage to truck crops on the west coast, in the Everglades, and on the lower east coast, which had previously escaped. Texas reported frosts in the Rio Grande Valley on the morning of January 13. Moderate to heavy precipitation fell almost daily in the Northwest from the Pacific Coast eastward to the Continental Divide and in the Northeast along the Atlantic Coast as far south as Hatteras and westward as far as eastern Ohio. Elsewhere in northern portions of the country the amounts were light to moderate and fell intermittently. The heavy precipitation in northern California brought rivers to near bankful stages and caused some flooding with Guerneville and Yuba City areas

(Continued on page 41)

CEREAL AND FORAGE INSECTS

GREENBUG (Toxoptera graminum) - NEW MEXICO - Infestations medium to heavy on wheat in De Baca County and on barley in Eddy County. (Durkin, Jan. 7). TEXAS - Found in every county surveyed in northwestern and panhandle counties, but counts low. Highest populations in Deaf Smith and Hansford Counties where counts were 0-5 per linear foot of row. None found south or east of Crosby County. (Cleveland, Ashdown, Daniels, Davis). (See also p. 40)

ENGLISH GRAIN APHID (Macrosiphum granarium) - OKLAHOMA - Reported from occasional fields in Custer, Dewey, Major and Woods Counties. Highest populations in Major County with counts of 15-35 per linear foot of row. (Coppock).

BROWN WHEAT MITE (Petrobia latens) - TEXAS - Has increased and causing considerable damage in 40 counties surveyed in northwestern and panhandle counties. Heaviest in northwestern counties of the panhandle, the Abilene area and in Baylor, Wilbarger and Wichita Counties. In many fields, 30 per linear foot of row. (Cleveland, Ashdown, Daniels, Davis). OKLAHOMA - Inspection of 43 small grain fields in 11 western and northern counties showed infestations in 20 fields. Counts ranged from an occasional specimen to 30-35 per linear foot of row. Highest populations in Caddo and Dewey Counties. (Coppock).

CORN LEAF APHID (Rhopalosiphum maidis) - TEXAS - In complex with R. fitchii in very low populations in all areas of the panhandle. (Cleveland, Ashdown).

CUTWORMS - TEXAS - Very light populations in Foard, Hardeman, Wilbarger and Wichita Counties with heaviest population in Foard County. In one field 5-6 per linear foot of row. (Davis).

MITES ON ALFALFA - KANSAS - Eriophyid mites, probably Aceria medicaginis were found on alfalfa in Marshall County, December 28 and in Saline County, January 9. (Matthew).

SPOTTED ALFALFA APHID - UTAH - Still present on succulent alfalfa in warmer parts of Iron County. (Sjoblom, Knowlton). NEW MEXICO - Populations medium to heavy on alfalfa stands (seedling and established) throughout State. (Durkin, Jan. 7). TEXAS - Injurious infestation on alfalfa in Grayson County. (Owen, Gunter). Very heavy infestation on alfalfa in Leon County. (Price). Infestations building up in Brazos and Burleson Counties. (Randolph). OKLAHOMA - Found in all fields of alfalfa inspected in Garvin County on January 10. Counts from 1-20 per leaf in some fields. (Stiles). Winter populations decreasing in northern counties. (Coppock).

THRIPS - NEW MEXICO - Exceedingly abundant in alfalfa for time of year. (Durkin, Jan. 7). TEXAS - Very low numbers in grain fields in panhandle area. (Cleveland, Ashdown).

FRUIT INSECTS

COTTONY-CUSHION SCALE (Icerya purchasi) - FLORIDA - Heavy infestations on citrus at Leesburg, Lake County. (Bentley).

TRUCK CROP INSECTS

1955 Fall Aphid Egg Abundance on Overwintering Hosts of Potato-Infesting Aphids in Northeastern Maine.

A survey was conducted November 7 to 9, 1955, in northeastern Maine to determine fall abundance of aphid eggs on overwintering hosts of potato-infesting aphids. Eggs of the buckthorn aphid (Aphis abbreviata) were found on alder buckthorn at all sampling stations. The fully-distended eggs were about one-half as abundant as the fall average for the preceding 10 years. Present egg populations are large enough, however, to result in potentially serious aphid populations on potatoes in 1956. Aphid eggs on Canada plum, a primary host of the green peach aphid (Myzus persicae), were found at 56 percent of the sampling stations. Overall aphid egg populations on this host were only 18 percent as large as at the time in 1954, and they are also down to 18 percent of the 10-year average. Observations on aphids on Canada plum during fall showed very low abundance of green peach aphid; therefore, very few of the eggs now present on this plant could have been deposited by green peach aphid. Indications are that, with favorable conditions, the green peach aphid could be found more generally on potatoes in 1956 than in 1955 but that, as in 1955, it should again have an unusually low order of abundance on potatoes in 1956. Aphid eggs on swamp rose, most important primary host of the potato aphid (Macrosiphum solanifolii), were found at all sampling stations. Present overall egg abundance, while 18 percent less than the 10-year average, is about 1-1/2 times that at the same time in 1954. In addition, the potato aphid comprised a somewhat larger proportion of the aphid populations on swamp rose during the fall of 1955 than 1954. Fall egg populations no larger than those now present have, under some conditions, resulted in large populations of the potato aphid on untreated potatoes during the summer following. (Shands, Simpson, Wave).

A GARDEN MILLIPEDE (probably Julus hesperus) - OREGON - Damaging a strawberry planting of several acres at Donald. (Stephenson).

COTTON INSECTS

Boll Weevil Hibernation Survey - Fall 1955 - Tennessee

The 1955 fall hibernation survey in McNairy County showed an increase over 1954. An average of 902 live weevils per acre of ground trash was found compared with 311 in 1954. Highest average number in any one sample was 3,112 per acre of trash. The 1955 counts were highest since 1952 when 2,259 were found. Other insects found abundant in trash samples were Fuller rose beetle, bean leaf beetle, stink bugs, squash bug, flea beetles, strawberry crown borer, plant bugs, sugarcane beetle, spotted cucumber beetle, golden tortoise beetle and strawberry weevil. (Locke).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

BELLA MOTH (Utetheisa bella) - FLORIDA - Larvae averaging 50 per plant and one per fruit on crotalaria 12 miles west of Ft. Pierce, St. Lucie County, December 9. (Campbell, Williams).

A FALSE SPIDER MITE (Pentamarismus erythreus)-OREGON - Feeding on arborvitae and causing browning of leaves at Corvallis, January 11, (Det. G. W. Krantz). (Capizzi).

A PHALAENID (Xanthopastis timais) - FLORIDA - Larvae averaging five per plant on spider lily at Cape Romano, Collier County. Hundreds of larvae eating hosts to ground in over 100 square feet, December 1. (Weems, Denmark).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - TEXAS - Heavy populations on all types of evergreens in Potter County. (Cleveland).

SPRUCE SPIDER MITE (Oligonychus ununguis) - WASHINGTON - Caused extensive injury to foliage of juniper and arborvitae shrubs near Everett in early September. (Johanson).

PINE NEEDLE SCALE (Phenacaspis pinifoliae) - TEXAS - Medium populations on spruce and pine in Potter County. Now in egg stage under old female scale. (Cleveland).

INSECTS AFFECTING MAN AND ANIMALS

CATTLE GRUBS - OKLAHOMA - Counts on mature cows at El Reno, Canadian County, averaged 9.5 per animal; on 200 mature cows in Harper County, 25 per animal; on 100 2-year-old heifers in Payne County, 9 per animal. (Howell).. KANSAS - Examination of cattle from out of the State and being fed for market in Johnson County, showed that 54 head of one herd which averaged nine grubs December 14, now have only four per animal. Counts made January 11, showed 0-12 grubs per animal compared with 0-39 a month earlier. All appeared to be Hypoderma lineatum. (Matthew). VIRGINIA - Average for 183 head of cattle on a northern beef cattle station is 5.3 per animal. Highest number present in single animal is 30 grubs; 23 animals or 12 percent have no grubs. The 183 head are 24.8 percent of total cattle on the station. Infestation is light to moderate on V. P. I. Farm at Blacksburg. (Turner, Raffensperger).

BROWN DOG TICK (Rhipicephalus sanguineus) - MARYLAND - Adults in home in Bethesda, Montgomery County. (. U. Md. Ent. Dept.).

CATTLE LICE - UTAH - Continue to be a serious problem in Kane and Iron Counties. (Knowlton).

MISCELLANEOUS INSECTS

OLD HOUSE BORER (Hylotrupes bajulus) - NORTH CAROLINA - Reports of this pest are increasing. (Jones).

Light trap collections:
TEXAS (College Station, 1/7-13/56): Pseudaletia unipuncta, 164; Agrotis ypsilon, 11; Feltia subterranea, 12. ALABAMA (Auburn 1/1-6/56): Feltia spp. 7. GEORGIA (Spalding County 1/1-6/56): P. unipuncta, 1; F. subterranea, 2. (Tift 12/17/55-1/6/56): P. unipuncta, 10. F. subterranea, 7; A. ypsilon, 2.

STORED PRODUCTS INSECTS

SAW-TOOTHED GRAIN BEETLE (Oryzaphilus suranamensis) - UTAH - Heavily infesting a large granary at Manti. (Funk, Knowlton). MARYLAND - Adults and larvae infesting chocolate in Baltimore. (U. Md. Ent. Dept.).

CIGARETTE BEETLE (Lasioderma serricorne) - FLORIDA - Larvae averaging 42 per 20-pound bag of tobacco seed at Quincy, Gadsden County. Two of 12 bags infested, December 9. (Det. W. H. Anderson). (Tappan).

BENEFICIAL INSECTS

LADY BEETLES - OKLAHOMA - Feeding on English grain aphid at air temperatures of 35 degrees in Major County. (Coppock).

A PREDACEOUS BEETLE (Temnochila virescens) - VIRGINIA - Collected from Pine, Dec. 16. (Det. G. B. Vogt). Feeds on bark beetles and wood borers . (Jones, Rowell).

* *

APHIDS ON GRAIN (Additional note) - GEORGIA - An aphid, probably greenbug, heavy on 10 acres of oats in Ben Hill County, January 1. (Murphy, Davenport).

Weather continued from p. 36

where floods occurred in late December. The drought situation continued in the Central and Southern Plains area and in most of the South where no significant precipitation fell during the period. Light dust erosion was reported in the Middle and Southern Plains on the 14th, with the occurrence of high winds. The Dakotas reported blizzard conditions near the end of the period on January 16, as colder weather replaced relatively mild conditions in these and adjacent states.

The snow cover decreased in depth in the Northeast. The greatest snow depth reported, except for mountain stations, is 26 inches at Grand Marais, Mich. Depths reported this week at higher elevations in Far West are 184 inches at Mount Baker Lodge and 167 at Paradise Ranger Station in Washington, 87 at Twin Lakes. Calif., 96 at Crater Lake, Ore. and 41 inches at West Yellowstone in Montana. (Summary Supplied by U. S. Weather Bureau).

SUMMARY OF INSECT CONDITIONS - 1955

MAINE

Reported by L. W. Boulanger
R. W. Paulson

Truck Crop Insects

COLORADO POTATO BEETLE (*Leptinotarsa decemlineata*) was moderate in scattered localities. POTATO FLEA BEETLE (*Epitrix cucumeris*) populations were fairly high in some areas on potatoes and heavy on tomatoes in southern counties. MEXICAN BEAN BEETLE (*Epilachna varivestis*) was light to moderate and general in distribution. Wireworms, predominantly the WHEAT WIREWORM (*Agriotes mancus*), were generally troublesome throughout the State with infestations ranging from moderate to heavy in local areas. STRIPED CUCUMBER BEETLE (*Acalymma vittata*) was heavy on squash and cucumbers in some southwestern counties. IMPORTED CABBAGEWORM (*Pieris rapae*) injury was severe in Androscoggin, Sagadahoc, Oxford and southern Aroostook Counties. TOMATO HORNWORM (*Protoparce quinquemaculata*) was not reported as doing any damage. ASPARAGUS BEETLE (*Crioceris asparagi*) was less abundant than usual. GREEN PEACH APHID (*Myzus persicae*) was relatively scarce on potatoes following a fall when few eggs were deposited on wild plum. POTATO APHID (*Macrosiphum solanifolii*) was somewhat less abundant than usual. FOXGLOVE APHID (*Myzus solani*) was less abundant on potatoes than in 1954. BUCKTHORN APHID (*Aphis abbreviata*) was moderately abundant on potatoes.

Cereal and Forage Crop Insects

EUROPEAN CORN BORER (*Pyrausta nubilalis*) was moderate in most areas. CORN EARWORM (*Heliothis zea*) populations moderate; some damage to late sweet corn. MEADOW SPITTLEBUG (*Philaenus leucophthalmus*) was less abundant than for several years. PEA APHID (*Macrosiphum pisi*) was less abundant in clover than for several years. YELLOW CLOVER APHID (*Pterocallidium trifolii*) was widespread over the State but was of little importance because of relatively light infestations. ARMYWORM (*Pseudaletia unipuncta*) was present but not in damaging numbers. APPLE GRAIN APHID (*Rhopalosiphum fitchii*) was abundant on oats. CORN LEAF APHID (*Rhopalosiphum maidis*) was much more abundant than usual on oats. ENGLISH GRAIN APHID (*Macrosiphum granarium*) was widespread and abundant on oats. GREENBUG (*Toxoptera graminum*) was present in small numbers on oats.

Fruit Insects

APPLE MAGGOT (*Rhagoletis pomonella*) damage was very light. Populations were unusually low in most orchards. CODLING MOTH (*Carpocapsa pomonella*) numbers were moderate to heavy in poorly-tended plantings. Second generation was slightly larger than usual. Control was generally good with regular control program. EYE-SPOTTED BUD MOTH

(Spilonota ocellana), OYSTERSHELL SCALE (Lepidosaphes ulmi) and EUROPEAN RED MITE (Metatetranychus ulmi) were moderately troublesome. A MIDGE (Dasyneura mali) populations were much heavier than last year. PLUM CURCULIO (Conotrachelus nenuphar) and APHID (Aphis pomi, Anuraphis roseus) injury was negligible in most cases. GYPSY MOTH (Porthetria dispar) and EASTERN TENT CATERPILLAR (Malacosoma americanum) populations were moderate; most growers got good control with routine early control measures. BLUEBERRY MAGGOT (Rhagoletis pomonella) and A THRIPS (Frankliniella vaccinii) infestation was light in most areas; damage was almost nil with usual control program.

Forest and Shade Tree Insects (From Maine Forest Service)

GYPSY MOTH (Porthetria dispar) occurred in very widespread infestations through most of southern and central Maine. SPRUCE BUDWORM (Choristoneura fumiferana) is of increasing importance as a threat to spruce fir forests, particularly in northern Maine. A WOOLLY APHID (Chermes piceae) is destroying a great deal of balsam fir in central and eastern Maine. This pest is quite serious. WHITE PINE WEEVIL (Pissodes strobi) was important throughout the range of white pine and was serious in spots to red spruce in northern Maine. BEECH SCALE (Cryptococcus fagi) is paving the way for Nectria which is continuing to kill beech in western Maine. A PINE LEAF APHID (Pineus pinifoliae) was present throughout central Maine.

Insects Affecting Man and Animals

HOUSE FLY (Musca domestica) and MOSQUITO populations were generally heavy through the summer. The fly population reached a peak about mid-August. BLACK FLIES (Simulium spp.) were very numerous in early spring. CATTLE LICE (Bovicola bovis, Haematopinus eurysternus) and POULTRY LICE (Eomenacanthus stramineus and Cuclotogaster heterographus) populations were very light throughout the State. CARPENTER ANTS (Camponotus sp.) were reported damaging timbers in buildings in most areas of the State. CARPET BEETLES (Anthrenus spp.) caused annoyance in many households. The PHAROAH ANT (Monomorium pharaonis) was reported from a house in Penobscot County.

SUMMARY OF INSECT CONDITIONS - 1955

NORTH DAKOTA

Reported by Vance V. Goodfellow

Cereal and Forage Insects

GRASSHOPPERS - A general build-up of the economic species occurred in the southeastern part of the State, a tri-county area including Slope, Bowman, and Adams Counties and the Nesson Flat area at Williston extending eastward along the Missouri River to southeastern Mountrail and northwestern McLean Counties. Infestations were generally localized with damage occurring only in legumes and late-planted field crops. WIREWORMS caused some stand thinning of small grains in northern sections. Damage was also reported in Bowman, Slope and Golden Valley Counties. Infestations were localized in fields. Reports of damage were fewer than in the previous season. The area of most severe infestation of WHEAT STEM SAWFLY (*Cephus cinctus*) were southern Mountrail, southwestern Ward, and western McLean Counties; some fields in Williams, Divide, Burke, Renville and Bottineau Counties also had heavy infestations, particularly along margins. Non-economic populations were generally the case south of the Missouri River and throughout the eastern half of the State. EUROPEAN CORN BORER (*Pyrausta nubilalis*) infestations reached the highest point yet recorded for North Dakota's major corn producing area, the southeastern border counties. The fall abundance survey indicated a sizeable increase over 1954 and a potential threat to the 1956 crop. Infestations of CORN EARWORM (*Heliothis zea*) and A COMMON STALK BORER occurred in sweet corn plantings in eastern section. Damage varied from light to moderate. A few ARMYWORM (*Pseudaletia unipuncta*) moths were collected from a light trap at Fargo early in June. Several larvae were collected from roadside grass in the northeastern section; however, numbers were small and no invasion of cropland was observed. Heavy feeding of SWEETCLOVER WEEVIL (*Sitona cylindricollis*) on second-year sweetclover occurred in eastern and northern sections during late May and early June. The damage was quickly outgrown and caused no material loss. Damage to newly-seeded fields was only slight. Variable infestations of a THRIPS (*Limothrips denticornis*) occurred in barley fields throughout the eastern half of the State. Amount of damage was not determined because of limited information available on this pest. ENGLISH GRAIN APHID (*Macrosiphum granarium*) was present on wheat over the entire State but little or no economic loss was sustained. GREENBUG (*Toxoptera graminum*) populations were mostly low and non-economic. However, several heavy infestations occurred at scattered points causing severe damage to wheat. CORN LEAF APHID(*Rhopalosiphum maidis*) in high numbers was found infesting the flag leaves of barley causing considerable concern over much of eastern North Dakota. Little or no damage occurred except to late-sown barley in more northern counties. Excessive heat and high incidence of disease together with heavy populations of this aphid contributed to total loss of many late barley plantings. ALFALFA WEEVIL (*Hypera postica*) was identified for first time in State; collected from Stark, Bowman and Adams Counties. No economic populations found.

Truck Crop and Vegetable Crop Insects

SUGAR BEET ROOT MAGGOT (*Tetanops myopaeformis*) was recognized as damaging to beet production in 1954. This pest caused severe damage to sugar beets in the sandy soil areas of Pembina and Walsh Counties. Distribution survey showed it present from central Traill County north to the Canadian border. COLORADO POTATO BEETLE (*Leptinotarsa decemlineata*) was present generally throughout the Red River Valley but in smaller numbers than 1954. Early population potentials failed to materialize because of inclement weather conditions. POTATO LEAFHOPPER (Empoasca fabae) populations exceeded several times that of the SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons) in potato fields. Severe "hopperburn" caused premature ripening of vines. Lack of interest in potato insect control appears largely responsible for this condition. FLEA BEETLE populations were also high with larval injury to tubers much above normal. Fewer applications of insecticide, as was the case with potato leafhopper infestations, appear to have contributed to this problem also. Heavy infestations of STRIPED CUCUMBER BEETLE (Acalymma vittata) occurred in home garden cucumber and squash plantings in southeastern counties. STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus) in scattered infestations was damaging in western area. HORNWORMS were more numerous than for several years in eastern sections and defoliated various garden plants. GARDEN SLUGS were abundant and attacked home garden plantings in eastern area.

Shade Tree and Ornamental Insects

Light infestations of EASTERN TENT CATERPILLAR (Malacosoma americanum) occurred on apples and shade trees at scattered points in eastern North Dakota. A LEAF BEETLE (Galerucella decora) caused heavy defoliation of willow, poplar, and cottonwood in many northwestern sections. A cotoneaster WEBWORM was abundant in many areas. APHIDS were numerous on elm, boxelder, and some other trees and ornamentals over the State. Scattered infestations of CANKERWORMS defoliated boxelder groves and native stands in southwestern section. Elsewhere populations were mostly light. GALL INSECTS and MITES were unusually abundant during the year. SPIDER MITE populations were generally lower than usual. WILLOW SAWFLY (Nematus ventralis) occurred at scattered locations in northeastern area. IMPORTED CURRANTWORM (Nematus ribesii) caused defoliation of gooseberry in several western localities. High populations of ROSE CURCULIO (Rhynchites bicolor) occurred on bush roses. POPLAR BORER (Saperda calcarata) infestations were numerous in eastern section. A SPINY ELM CATERPILLAR occurred commonly on elm in several sections. FALL WEBWORM (Hyphantria cunea) was unusually abundant over most of the State. CECROPIA MOTH caterpillars were more numerous on shade and shelterbelt trees and shrubs than they have been for many years. Large populations of LACE BUGS occurred on elm at scattered points. Scattered infestations of ELM SAWFLY (Cimbex americana) were observed defoliating American and Chinese elm in the southwestern section. YELLOW-NECKED CATERPILLAR (Datana ministra) caused defoliation of crabapple in many eastern locations.

Man and Animal Insects

MOSQUITO populations were generally high in early July. Above-normal rainfall produced unusually heavy populations which caused considerable annoyance. STABLE FLY (Stomoxys calcitrans) and HOUSE FLY (Musca domestica) infestations were generally less severe than in previous years and were satisfactorily controlled with chlorinated hydrocarbons. HORN FLY (Siphona irritans) infestations were heavy due to lack of interest in livestock-spraying. Several household infestations of CAT and DOG FLEAS (Ctenocephalides spp.) were reported by occupants who had closed homes during summer vacation periods. Larval concentrations of A BLACK FLY (Simulium venustum) on stones and other surfaces in swift moving streams of the Red River Valley were more abundant than during the last five years; however, no economic losses were reported. During the late fall injurious infestations of the SHORT-NOSED CATTLE LOUSE (Haematopinus eurysternus) were observed in the Red River Valley on beef cattle where no control measures had been applied. Herefords appeared more heavily infested than Angus or Shorthorn. AMERICAN DOG TICK (Dermacentor variabilis) was more abundant in Red River Valley than for last few years.

Household and Stored Products Insects

Numerous infestations of CARPET BEETLES and LARDER BEETLE (Dermestes lardarius) were reported during the year. STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus) and CLOVER MITE (Bryobia praetiosa) invaded numerous homes; however, reported infestations were lower than in 1954. Clover mite invasions appeared later than in previous years. PSOCIDS, SAW-TOOTHED GRAIN BEETLE (Oryzaephilus surinamensis) and CONFUSED FLOUR BEETLE (Tribolium confusum) infestations were reported from many areas in 1955 crop stored grain. Most infestations were associated with inadequately cleaned storage facilities. However, increased interest was noted in cleaning of bins and the use of bin sprays and fumigants.

Insect Predators

Large populations of LACEWINGS, SYRPHID FLIES AND LADY BEETLES were associated with heavy aphid infestations.

SUMMARY OF INSECT CONDITIONS - 1955

SOUTH CAROLINA

Compiled by W. C. Nettles

Cotton Insects

Coastal section - The BOLL WEEVIL (Anthonomus grandis) infestation was exceedingly high during 1955 with the intensity of the infestation being about the same as that of 1953 and slightly less than that of 1950 which was one of the worst boll weevil years in the history of South Carolina. Weather conditions during June, July and August were extremely favorable for boll weevil development. Rainfall occurred on 12 days in June, 11 days in July, and 14 days in August, with a total rainfall of 3.73, 7.48 and 4.31 inches, respectively, for these months. The daily maximum temperature seldom went above 93°F. during these months.

In seven experimental fields, gains in yields in plots treated with the standard recommended insecticides over the untreated check plots averaged 899 pounds of seed cotton per acre, ranging from 333 to 1640 pounds. This might be considered a fairly accurate estimate of the damage caused by the boll weevil in the coastal section of South Carolina. In localized areas of the coastal section of the State where recommended control practices were not followed, heavy losses in yields were caused by the BOLLWORM. SPIDER MITE infestations were light throughout the season with only a few fields in the coastal section having infestations during the summer sufficient to justify control measures.

Piedmont section - THRIPS caused considerable ragging of cotton during May and June. Striking differences were noted between treated and untreated adjacent areas. Although initial BOLL WEEVIL infestations were much lighter than in the coastal area towards the latter part of the season, well-fertilized cotton which continued to grow for a long period sustained heavy losses in localized areas. All in all, the highest per-acre yields of cotton ever recorded were made in the Piedmont during 1955. Many of the counties averaged a bale or more per acre.

Tobacco Insects

The TOBACCO FLEA BEETLE (Epitrix hirtipennis) was the most important insect pest of tobacco during the season. The infestation was as severe as during 1938 and 1951 which were outbreak years. The beetles appeared soon after the plants were transplanted to the fields and caused considerable damage at this time; however, the most important damage occurred as the tobacco was ripening and being harvested. While severe losses occurred in many fields, the use of effective insecticides paid high dividends. GREEN PEACH APHID (Myzus persicae) was not especially troublesome in plant beds, but it appeared in fields when the plants were small and with a favorable season prevailing it continued to feed on the plants throughout June. TOBACCO HORNWORM (Protoparce sexta) is an important pest of tobacco every year. However, the 1955 population was a little below normal and the use of effective insecticides for its control was probably the reason why it was not considered as serious as in some former years. Reports of TOBACCO WIREWORM (Conoderus vespertinus) were not as widespread as in 1953, but growers in several localities replanted entire fields because of wireworm damage. A LOOPER, presumably the CABBAGE LOOPER (Trichoplusia ni), occurred on tobacco in outbreak numbers in parts of Williamsburg and Horry Counties. It was present in small numbers on a large number of farms in Florence County when the plants were full-grown. Ordinarily, TOBACCO BUDWORM (Heliothis virescens) is a serious pest of tobacco every year. During the past season, however, it was present in fewer numbers than during any season since 1936. On the other hand, the CORN EARWORM (Heliothis zea) appeared in unusually large numbers on the flowering heads and suckers of tobacco during the latter part of the season. VEGETABLE WEEVIL (Listroderes costirostris obliquus) larvae appeared on plants in tobacco plant beds during February which is unusually early. The adults appeared on field plants in fairly large numbers in April and May. A severe infestation of POTATO TUBERWORM (Gnorimoschema operculella) was reported from Hemingway during May. Local infestations occur in the State practically every year. GRASSHOPPERS were above normal in abundance and growers made several applications of insecticides for their control. CUTWORMS were above normal in abundance, varying from light to isolated cases of severe injury.

Vegetable Insects

Charleston area - CATERPILLARS on cole crops: The CABBAGE LOOPER was quite difficult to control and caused extensive damage. The IMPORTED CABBAGEWORM (Pieris rapae) was moderately injurious and some damage was done by the DIAMOND-BACK MOTH (Plutella maculipennis), CORN EARWORM, CABBAGE WEBWORM (Hellula rogatalis) and several species of CUTWORMS. The CABBAGE APHID (Brevicoryne brassicae) was lightly to moderately injurious to spring-crop cabbage, but not as abundant as in several preceding years. The TURNIP APHID (Rhopalosiphum pseudobrassicae) was moderately injurious to cabbage plant beds and to turnips; the GREEN PEACH APHID (Myzus persicae) lightly to moderately injurious to potatoes, tomatoes, and cole crops and moderately to seriously injurious to spinach; and the POTATO APHID (Macrosiphum solanifolii) was slightly to moderately injurious to potatoes and tomatoes. VEGETABLE WEEVIL (Listroderes costirostris obliquus) caused considerable damage to turnips, mustard and spinach and some injury to cabbage during February and March. Damage apparently increasing. Light to moderate infestations of COLORADO POTATO BEETLE (Leptinotarsa decemlineata) appeared in extensive potato plantings, but was checked by insecticides. WIREWORMS were responsible for some 14 percent of spring-crop Irish potatoes being ineligible to U. S. Grade No. 1, in spite of extensive use of soil insecticides. An average of 20 percent of tubers from untreated experimental plots showed injury, 4.4 percent regarded by inspectors as being "damaged." Losses to growers in coastal South Carolina, including cost of control measures, were estimated at about $116,000 in 1955. The most abundant species, Conoderus vagus was more difficult to control than heretofore. GULF WIREWORM (C. amplicollis) was next most abundant but more readily controlled. MEXICAN BEAN BEETLE infestations were generally light. Moderate infestations of ONION THRIPS (Thrips tabaci) appeared on onions, cucumbers, cantaloupes, and watermelons during dry spell in April and May. SEED-CORN MAGGOT (Hylemya cilicrura) caused considerable injury to sprouting snap beans in soils containing decaying vegetation. CORN EARWORM (Heliothis zea) was moderately injurious to tomatoes, sweet corn, cabbage and beans. PICKLEWORM (Diaphania nitidalis) infested 34 percent of the cucumbers and 69 percent of the cantaloupes produced on untreated plots. Extensive and successful control measures were used on commercial plantings of cucurbits. Several species of CUTWORMS including GRANULATE CUTWORM (Feltia subterranea) and BLACK CUTWORM (Agrotis ypsilon) caused moderate injury to variety of crops. LEAF MINERS, apparently chiefly SERPENTINE LEAF MINER (Liriomyza sp.), were light to moderate in numbers on tomatoes during spring and on cucumbers and cantaloupes in fall. They are apparently increasing in area. LESSER CORNSTALK BORER (*Elasmopalpus lignosellus*) caused some injury to snap beans during August, but was much less destructive than in 1954. HORNWORM (*Protoparce* sp.) caused considerable damage to fall-crop tomatoes. BANDED CUCUMBER BEETLE (*Diabrotica balteata*) and STRIPED CUCUMBER BEETLE (*Acalymma vittata*) did considerable injury to young cucurbits and cabbage during fall. In the coastal area and in the Piedmont the same insects were damaging to vegetable crops. One of the noteworthy instances was that of the CUTWORMS to watermelons. PICKLEWORM damage to fall cantaloupes was appreciable wherever they were grown as was the TOMATO FRUITWORM on Piedmont tomatoes.

Corn Insects

CORN EARWORM was the number one offender and BILLBUG continued to damage corn in the Pee Dee area and a number of the reports came from the area between the Santee and Savannah River. CHINCH BUGS caused unusually severe damage to corn not only in the so-called grass belt of South Carolina but also in the Pee Dee area.

Forage Crops

FALL ARMYWORM (*Laphygma frugiperda*) damage to corn, pastures and other forage crops was much less than usual. ARMYWORM (*Pseudaletia unipuncta*) caused less damage than in years past. THREE-CORNERED ALFALFA HOPPER on alfalfa caused damage in a number of locations in the Piedmont. Larvae of the GREEN JUNE BEETLE (*Cotinis nitida*) caused less damage than in the past to such crops as alfalfa and newly-seeded pasture. The CLOVER LEAF WEEVIL (*Hypera punctata*) was locally damaging to alfalfa in Newberry County. On sorghums and Sudan grasses severe damage was inflicted by the CHINCH BUG (*Blissus leucopterus*) and A CLOVER MIDGE was very damaging to the seed heads of grain sorghums.

Insects of Forest and Shade Trees

Several species of IPS BEETLES caused considerable monetary loss and were much above average in destructiveness. SOUTHERN PINE BEETLE (*Dendroctonus frontalis*) was locally destructive to pine during year. BLACK TURPENTINE BEETLE (*Dendroctonus terebrans*) was damaging especially to ornamental pines.

Ornamental Insects

BAGWORMS were severe on arborvitae. Greater than average number of specimens of WAX SCALE was sent in from camellia. Greater than usual number of specimens of COTTONY-CUSHION SCALE (*Icerya purchasi*) submitted. SPIDER MITES were heavy on boxwood and other ornamental plants. MIMOSA WEBWORM (*Homadaula albizziae*) was reported on mimosa trees. HOLLY LEAF MINER was present in restricted localities.

Insects of Fruits and Nuts

PEACH TREE BORER (*Sanninoidea exitiosa*) damage appears to have increased in some orchards. The absence of the entire crop of peaches is a result of the cold, and this doubtless affected the CURCULIO population. CODLING MOTH (*Carpocapsa pomonella*) and APHIDS of apples caused damage in a few isolated orchards where crop was set. SCALE INSECTS were much below average on both apple and peach orchards.

Stored Products Insects

ANGOUMOIS GRAIN MOTH (*Sitotroga cerealella*) was numerous in stored grain and corn. RICE WEEVIL (*Sitophilus oryza*) was at a low ebb on small grain but showed a tendency to build up, especially in the coastal areas on corn. "BRANBUGS" were very numerous in stored grain.

Soybean Insects

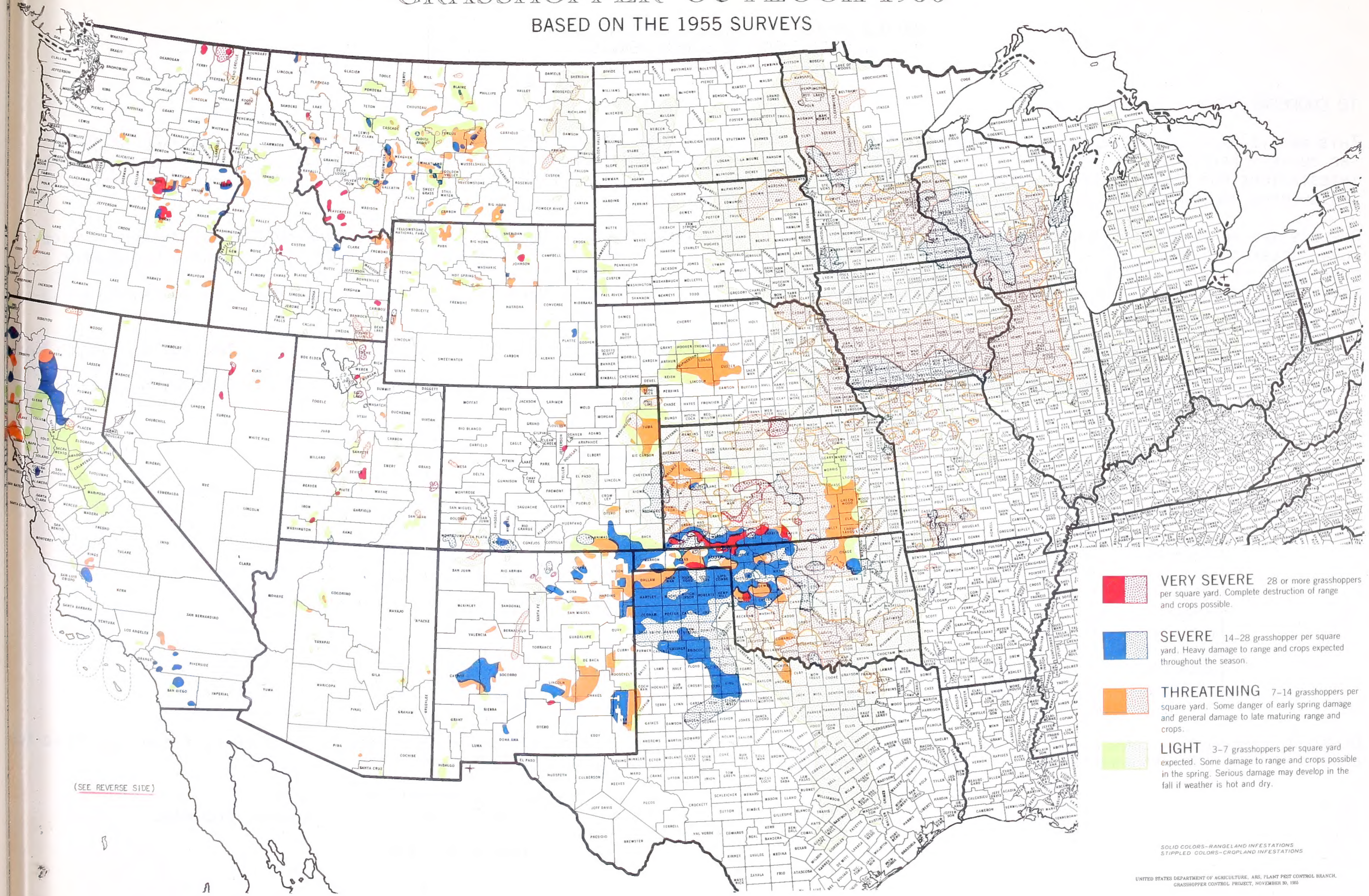
CORN EARWORM damaged pods and VELVETBEAN CATERPILLAR (*Anticarsia gemmatilis*) caused very slight damage during the season.

Insects Affecting Man and Animal

HORN FLY (*Siphona irritans*), especially in the coastal area, appeared to be somewhat more numerous than in several dry years just past. Less than the usual number of complaints of HORSE FLIES were received.

GRASSHOPPER OUTLOOK-1956

BASED ON THE 1955 SURVEYS



🟥 ▨ VERY SEVERE 28 or more grasshoppers per square yard. Complete destruction of range and crops possible.

🟦 ▨ SEVERE 14–28 grasshoppers per square yard. Heavy damage to range and crops expected throughout the season.

🟧 ▨ THREATENING 7–14 grasshoppers per square yard. Some danger of early spring damage and general damage to late maturing range and crops.

🟩 ▨ LIGHT 3–7 grasshoppers per square yard expected. Some damage to range and crops possible in the spring. Serious damage may develop in the fall if weather is hot and dry.

SOLID COLORS-RANGELAND INFESTATIONS
STIPPLED COLORS-CROPLAND INFESTATIONS

(SEE REVERSE SIDE)

UNITED STATES DEPARTMENT OF AGRICULTURE, ARS, PLANT PEST CONTROL BRANCH,
GRASSHOPPER CONTROL PROJECT, NOVEMBER 30, 1955

GPO 838379

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
Plant Pest Control Branch

TO COOPERATORS:

This map is based upon the results of cooperative grasshopper adult and egg surveys made during the late summer and fall of 1955. The surveys reveal where, how many, and what kinds of grasshoppers infest an area and indicate the potential severity of grasshopper infestations for 1956. Nymphal surveys, made each spring immediately before the onset of control work, provide the final index of grasshopper populations which will warrant control that growing season.

Surveys are planned and performed with participating States, by the Grasshopper Control Project, Plant Pest Control Branch, Agricultural Research Service. The survey information is used by farmers, ranchers, county and State agencies, Federal land management personnel, dealers in insecticides and equipment, and those directly charged with grasshopper control as a basis for planning and executing timely, economical, and effective control programs. The map, "Grasshopper Outlook - 1956", reflects the potential grasshopper problem in the infested states.

The infestation on croplands shown on the map in stippling is generally more threatening than it was in 1955. Control on those lands will be handled by the farmers with technical assistance from Project and State personnel. The probable 1956 rangeland infestation, which is tabulated below, is more widespread and severe in the Southwest than at any time in recent years. The infested range areas shown on the map in solid colors total 20,220,870 acres in 16 western states.

POTENTIAL RANGELAND GRASSHOPPER CONTROL PROBLEM ACREAGE By STATES - 1956

State	Landownership - Acres		Total	State	Landownership - Acres		Total
	Private & State	Public Domain	(Acres)		Private & State	Public Domain	(Acres)
Arizona	130,000	10,000	140,000	Nevada	16,700	3,680	20,380
California	1,263,750	46,000	1,309,750	New Mexico	2,103,970	697,370	2,801,340
Colorado	706,200	63,800	770,000	Oklahoma	1,944,000	-	1,944,000
Idaho	15,400	96,600	112,000	Oregon	387,800	35,000	422,800
Kansas	1,198,000	-	1,198,000	Texas	8,747,000	-	8,747,000
Missouri	-	11,000	11,000	Utah	-	50,000	50,000
Montana	807,000	547,000	1,354,000	Washington	37,000	3,000	40,000
Nebraska	1,000,000	-	1,000,000	Wyoming	154,200	146,400	300,600

Detailed information concerning the grasshopper problem in specific areas or states can be obtained from State pest control officia county agents, and Grasshopper Control Project personnel.

Grasshopper Control Project
Denver Federal Center, Denver, Colorado

November 30, 1955

USDA. AGRL RESEARCH SERVICE
ENTOMOLOGY RESEARCH BR
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